



EFFECTIVE USE OF OPEN ONLINE RESOURCES IN DISTANCE LEARNING

Lydia Humenna ¹, Oleksandr Humennyi ²

- 1 junior researcher of the laboratory of foreign systems of vocational education and training of the Institute of Vocational Education of the National Academy of Pedagogical Sciences of Ukraine, <https://orcid.org/0000-0003-3813-5894>, e-mail: red-ipto@ukr.net
- 2 Associate Professor of Vocational and Higher Education of the Central Institute of Postgraduate Education DZVO "University of Education Management", <https://orcid.org/0000-0001-6596-3551>, e-mail: gumennyi7@gmail.com

Abstract.

Relevance: rapid development of technologies causes the development of intellectual management of education and changes in approaches to competence development and self-development of the individual in modern transformations of the educational system, namely: the transition to the latest psychological and pedagogical technology – creating open intellectually rich educational information environments.

When considering educational services, in accordance with modern industry requirements and individual needs of specialists, the social order will be understood as a set of social requirements, in particular: the effective use of open online resources for the development of creative and critical thinking; universal system knowledge, high adaptability and self-development; key ICT competencies; decision-making ability and social responsibility; ability to manage dynamic processes and work with projects; ability to work in the group (team) and ensure high productivity. To increase the effective use of open online resources, it is important to use virtual reality with its dual nature both to recreate the real environment and create new scenarios, which, in turn, allows you to combine and recombine methods of implementing VR in learning and entertainment.

Purpose: substantiation of modern approaches to the effective use of open online resources in distance learning.

Methods: analysis of scientific literature to clarify current trends in the effective use of open online resources in distance learning; comparative analysis, synthesis and methods of expert evaluation for the selection of 'keys' to learning in the Internet environment; methods of analysis and synthesis for the formation of the best practices for effective work of teachers on the Internet.

Results: 'keys' for the use of open online educational resources are selected, ten best practices of effective work of teachers on the Internet are formulated.

Conclusions: modern approaches to the effective use of open online resources in distance learning are identified.

Keywords: *effective methods, smart-complexes, quasi-neural network, Socrates method, online-resource.*

Introduction. The transition of mankind to an innovative type of progress at the beginning of the third millennium was marked by the transformation of the post-industrial society into an information society, which, in the long run, will become a knowledge society. And the main value of it will not be knowledge per se, but a person as its producer, consumer and modernizer, because knowledge is becoming increasingly obsolete and eventually loses its relevance. That is why, the goal of the learner is not the acquisition of as much

knowledge as possible, but the ability to constantly update and replenish it, that is, lifelong learning.

Sources. Speaking at the Global Education and Skills Forum in Dubai (United Arab Emirates) in April 2019, Andreas Schleicher (2019), Head of Education at the Organization for Economic Co-operation and Development, noted that both the Global Education Rating System and the PISA (International Student Assessment Program) is changing to focus more on measuring the 21st century skills such as creativity and digital literacy. He also stressed

that no one pays a person for what he knows (because Google knows everything), but one pays for what he is able and can do with knowledge, i.e. for his/her competence. As a result, education in the knowledge society is becoming a theory and practice of training knowledge worker (cognitive workers who have information, have knowledge and know how to apply it in practice).

The scientific works of V. Bykov (2013), O. Vysotska (2013), O. Zakharova, M. Kademiia (2008), L. Kartashova (2018), O. Korzhylova, O. Korolyova, V. Lupanova (2008), V. Oliynyk, O. Spirin (2009), V. Soldatkina (2001), V. Sokolova; D. Bornstein, G. Gutek, J. Holt and etc. are devoted to the study of the problems of open education. The analysis of the source base of the research testifies to the significant interest of domestic and foreign scientists in the development of open education as a global educational system, substantiation of its essential characteristics, determination of tendencies of functioning in modern conditions and so on.

The purpose of the paper is to substantiate and highlight the effective use of open online resources in distance learning, highlight new methods of teaching subjects in the Internet environment, effective use of the method of Socrates for holding dialogue between students for whom truth and knowledge are not presented in the finished form, but they are a solvable problem that involves searching through forums in the online environment.

Results and discussion. The human brain receives more than 400 billion bytes of information every second. And only 2,000 of them are deliberately worked out, because most of what we are constantly faced with cannot become stable knowledge without proper mental motivation or a certain emotional significance.

Learning should be equated with relatively constant changes in behavior and thought processes. In other words, if you do not remember something, you will not learn about it and not develop the proper skills, which means you will not be able to effectively apply the acquired knowledge and skills.

As educational institutions increasingly use the Internet environment in distance learning, new teaching methods are needed, and first of all:

- **lectures should last 18 minutes or even less:** talking for 45 minutes tires students and does not create the proper learning effect. Most of this voluminous material is not memorable, and as the auditory learning modality tends to have the least number of mentions, online conversations usually last 15-20 minutes. Preparing a teacher for such a lecture

requires both deep thinking and conscientious implementation of presentations. We recommend dividing the lecture into small time segments, 18 minutes or less, to develop logical transitions between them, emphasizing their importance and forming the emotional appeal of the educational design environment for each student.

In the online environment, the development of 18-minute lectures is always a complex process, as it is necessary to balance the flow of educational information so that the effectiveness of its assimilation gives the greatest result, which is an important condition for achieving the best practice;

- **create conditions for meaningful learning:** for learning to be meaningful, the teacher needs to gather an investment portfolio with data that relates to personal goals, core values and interests of students. It is important to consider the motivation of students enrolled in the course, as well as the specific skills they want and need to develop, and the preferences of the learning method available in this resource.

Using the information gathered, the teacher can easily establish a link between the course material and the interests and needs of students.

There is more space and time in the online environment for students who can supplement their personal resources. The teacher can collect and analyze such information contained in the cadastres, effectively developing the training course;

- **apply a selective approach to content delivery:** everyone prefers certain learning styles (the method of receiving and remembering new information) when it comes to ways of learning or communicating. Some learners store information better and show increased understanding of it if it is obtained visually, others trust vision or kinesthetic methods more, and some learners – auditory ones.

In online communication, adaptation to the desired method of the receiver contributes to its effectiveness. In an online learning environment, it is necessary to adapt the presentation of content to perform tasks by students (in a virtual classroom or group), which helps to better remember information.

Of course, information on student teaching methods should be available. To do this, the teacher needs to determine the educational level of students, pre-assessing their learning tests, and, making a linguistic analysis of them, conduct a psychometric assessment. That is why, the introduction of language and information methods for diagnosing student achievement is relevant. These include methods and means of automated control of knowledge, able to process and evaluate the answers given in *any* form.

And it is much easier to analyze it in the Internet environment, because each student provides the teacher with more written materials than in a regular classroom, where, mostly, auditory information is available.

After analyzing the way students are taught, lectures and activities should be designed to reflect the study of the material in different ways. For example, if the group employs students with the perception of visual information, the widespread use of visual tools will greatly facilitate involvement in learning;

- **develop incentive measures:** adaptation of classes in classrooms to the learning environment on the Internet requires some creativity and understanding of the tools used to create interactive exercises,

tests, games, crossword puzzles; smart-complexes of academic disciplines; interactive books (manuals) for computers, tablets, smartphones; dynamic presentations; boards with stickers, etc. For example, one of the actions that is always convenient for assessing students' understanding of the material is the presentation before the study group. This can be done by 1) asking a few students to display, on a virtual board, their understanding of the development of the learning project so that everyone else can see or 2) inviting participants to a dialogue with different points of view, which will develop the purpose of their activities in divergent thinking. The proposed idea should be used in the environment of creative self-realization of the smart-complex of the discipline (Fig. 1).

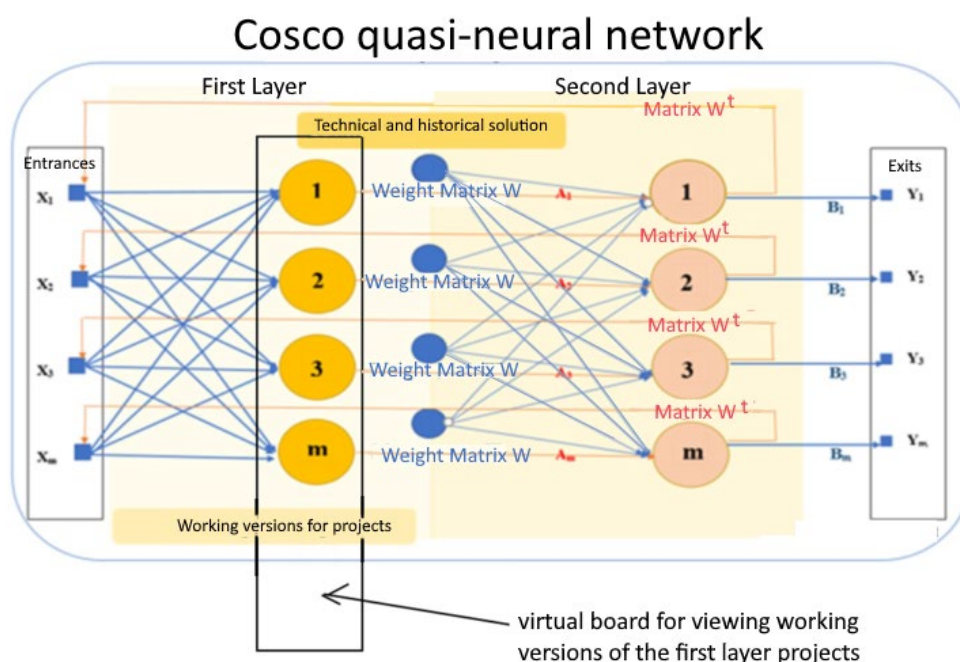


Fig.1. The use of virtual board in a Cosco quasi-neural network

Such activity should directly relate to both the content of the discipline and the interests of students, their motivation to master the discipline. They should perceive these activities as difficult ones, but necessary to acquire new knowledge, and not just as another training exercise.

At the end of the lesson, the teacher should synthesize all the ideas into a real pedagogically sound form, which illustrates convergent thinking –

linear thinking, which is based on the gradual implementation of the task in accordance with algorithms;

- **effective use of the Socrates method** (Fig. 2): the use of interesting questions improves learning and makes it much more effective. In the online environment, this can be done through discussion forums in which each student can participate. The Internet environment is the best for the practical application of effective methods of Socrates, because it is convenient to use a discussion forum.

Socrates Method

The essence of the method is that a list of specially prepared questions is used when looking for solution to the problem. The student gives answers to questions, on this basis, he analyzes the problem (condition of the problem) and thus approaches its solution.

List of control questions:

- Question 1.
- Question 2.
- Question 3.
- Question 4.
- Question 5.
- Question 6.
- Question 7.
- Question 8.
- Question 9.



Fig.2. Socrates Method

Tips for using the Socrates method:

1. Set spoken instructions:

* remember the names of students, and let the students know each other's names too;

* explain that participation requires listening and active involvement, and that it is not enough to just insert one comment in class and then be silent until the end;

* emphasize that learners should focus their comments on concepts and principles, not first-person stories.

2. Ask questions and be able to listen to them. Your silence is also productive. There is no need to fill the void with conversation, silence also creates useful tension. Give students the opportunity to consider the answer. Use the 'ten-second wait' rule before attempting to rephrase your questions.

3. Find ways to create 'productive discomfort' in small groups so that students can communicate freely in the online environment.

4. Build a chain of questions correctly and consistently, use their logical connection. Offer students to respond to them on their own, expressing their own opinions, rather than reading reference material.

5. Always strive to learn something new. Be prepared to say, 'I don't know the answer to this question right now, but we'll talk about it next time'.

6. Welcome an unexpected idea that gives a new perspective on the topic and promotes its creative development, but abandon incompatible ideas.

7. Conciseness and short remarks of the teacher are often perceived. However, do not allow long morals and speeches, or long lectures.

8. Find a space in communication that encourages creative interaction.

9. Use small groups at work, their activities are always more productive.

The theoretical foundations of these innovative practices originate from pedagogical psychology, constructivism and andragogy (adult education).

The difficulty of creating an attractive learning environment on the Internet is to comply with the system of online learning to structure knowledge in the mind according to the scheme: basic scientific concepts – basic provisions – consequences – applications. Best practices work in harmony with each other as musicians in an orchestra. Educational institutions can create systems that provide the conditions for the development of such skills and programs in the context of learning, because systematic

thinking in developing the desired educational environment on the Internet to achieve significant learning success is crucial during and after the pandemic.

It is no secret that the effectiveness of classroom learning is potentially provided by an innovative teacher, so in online learning, the principles and teaching methods he uses are very important.

Experience confirms that the best ratio of material in the course is as follows:

- 34% of communication of the pedagogical worker with students;
- 33% of students' communication with each other (communication);
- 33% of students' work with resources.

Conclusions. Thus, the use of open educational resources in postgraduate education can significantly expand the educational environment, ensure the formation and use of open educational content for all consumers of information. It opens additional opportunities for the development of key competencies of educational customers and stakeholders. It is in the system of distance learning that conditions are created for continuous professional development of specialists throughout life, accessibil-

ity in obtaining knowledge, compliance with the demands and needs of the individual and society, as well as changing the attitudes of participants in educational activities. The introduction of virtual reality (VR) – a relatively new technology that has mastered the world of e-learning with incredible speed, creates the preconditions for improving the efficiency of open online resources in postgraduate education.

Prospects for further research. The study does not cover all aspects of quality assurance of educational services for students based on open content and educational resources of open education, but indicates the need for further study and development in the following promising areas: analysis of modern scientific approaches, trends, directions, conditions and technologies of realising principles of open education in Ukraine; development of information and digital competence of the teacher of the New Ukrainian school in the conditions of formal and non-formal education. The study of the outlined problems will be the subject of subsequent scientific research of the authors.

(Continuation of the article will be submitted in the next issue)

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Ефективне використання відкритих online-ресурсів у дистанційному навчанні

Лідія Гуменна ¹, Олександр Гуменний ²

- 1 молодший науковий співробітник лабораторії зарубіжних систем професійної освіти і навчання Інституту професійно-технічної освіти НАПН України
- 2 доцент кафедри професійної та вищої освіти Центрального інституту післядипломної освіти ДЗВО «Університет менеджменту освіти»

Реферат.

Актуальність: стрімкий розвиток технологій спричиняє розвиток інтелектуального менеджменту освіти та зміни у підходах до компетентнісного розвитку й саморозвитку особистості в умовах сучасних трансформацій освітньої системи, а саме: переходу до новітньої психолого-педагогічної технології – створення відкритих інтелектуально-насичених освітніх інформаційних середовищ.

При розгляді освітніх послуг, відповідно до сучасних галузевих вимог та індивідуальних потреб фахівців, під соціальним замовленням будемо розуміти певну сукупність суспільних вимог, зокрема: ефективне використання відкритих online-ресурсів для розвитку творчого і критичного мислення; універсальні системні знання, високу адаптивність та саморозвиток; ключові компетентності в галузі ІКТ; здатність до прийняття рішень та соціальна відповідальність; уміння управляти динамічними процесами і працювати з проектами; уміння працювати в колективі (команді) й забезпечувати високу продуктивність роботи. Для підвищення ефективного застосування відкритих online-ресурсів важливо використовувати віртуальну реальність з її подвійною природою як для відтворення реального середовища, так і для створення нових сценаріїв, що, в свою чергу, дає можливість комбінувати й рекомбінувати методи реалізації VR у навчанні й розвагах.

Мета: обґрунтування сучасних підходів ефективного використання відкритих online-ресурсів у дистанційному навчанні.

Методи: аналіз наукової літератури для з'ясування сучасних тенденцій ефективного використання відкритих online-ресурсів у дистанційному навчанні; порівняльний аналіз, синтез та методи експертного оцінювання для добору «ключів» до навчання в Інтернет-середовищі; методи аналізу і синтезу для формування найкращих практик ефективної роботи педагогічних працівників в інтернеті; Метод Сократа.

Результати: дібрано «ключі» для використання відкритих освітніх online ресурсів, сформульовано десять найкращих практик ефективної роботи педагогів в інтернеті.

Висновки: визначено сучасні підходи ефективного використання відкритих online ресурсів у дистанційному навчанні.

Ключові слова: професійна освіта, smart-комплекси, квазінейронна мережа, метод Сократа, online-ресурс.

Received: 25 August 2020

Accept: 25 September 2020